

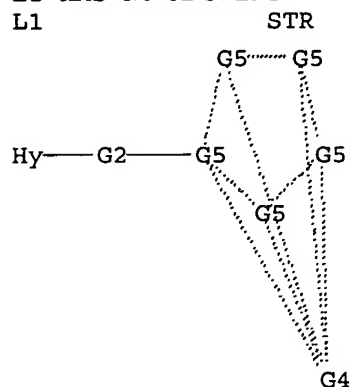
(FILE 'HOME' ENTERED AT 17:00:11 ON 25 NOV 2002)

FILE 'REGISTRY' ENTERED AT 17:00:21 ON 25 NOV 2002

L1 STRUCTURE UPLOADED

=> d l1

L1 HAS NO ANSWERS



G1 C,Si

G2 C,Si

G3 OH,SH,NH2,P

G4 Cf,Mo,W

G5 C,N,P

Structure attributes must be viewed using STN Express query preparation.

=> s l1

SAMPLE SEARCH INITIATED 17:01:24 FILE 'REGISTRY'

SAMPLE SCREEN SEARCH COMPLETED - 12720 TO ITERATE

7.9% PROCESSED 1000 ITERATIONS
INCOMPLETE SEARCH (SYSTEM LIMIT EXCEEDED)
SEARCH TIME: 00.00.01

0 ANSWERS

FULL FILE PROJECTIONS: ONLINE **COMPLETE**
BATCH **COMPLETE**
PROJECTED ITERATIONS: 247653 TO 261147
PROJECTED ANSWERS: 0 TO 0

L2 0 SEA SSS SAM L1

=> s l1 full

FULL SEARCH INITIATED 17:01:29 FILE 'REGISTRY'

FULL SCREEN SEARCH COMPLETED - 249859 TO ITERATE

100.0% PROCESSED 249859 ITERATIONS
SEARCH TIME: 00.00.04

60 ANSWERS

L3 60 SEA SSS FUL L1

=> fil caplus

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

140.66

140.87

FILE 'CAPLUS' ENTERED AT 17:01:40 ON 25 NOV 2002

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FILE LAST UPDATED: 24 Nov 2002 (20021124/ED)

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=> s l3
L4 23 L3

=> d 1-23 bib abs

L4 ANSWER 1 OF 23 CAPLUS COPYRIGHT 2002 ACS
AN 2002:444593 CAPLUS
DN 137:63329
TI Synthesis and photolysis of $[M(CO)_3H]_2(\eta^5, \eta^5-C_5H_4CH_2C_5H_4)$, where M = Mo and W. Photochemical 'twist' rearrangement of $M_2(CO)_6(\eta^5, \eta^5-C_5H_4CH_2C_5H_4)$ to give $[M(CO)_3][M(CO)_3H](\eta^5, \eta^5: \eta^5.1-C_5H_4CH_2C_5H_3)$, where M = Mo and W. The molecular structure $[Mo(CO)_3][Mo(CO)_3Cl](\eta^5, \eta^5: \eta^5.1-C_5H_4CH_2C_5H_3)$
AU Bitterwolf, Thomas E.; Saygh, Abdul; Haener, Jay L.; Fierro, Ricardo; Shade, Joyce E.; Rheingold, Arnold L.; Liable-Sands, Louise; Alt, Helmut G.
CS Department of Chemistry, University of Idaho, Moscow, ID, 83844-2343, USA
SO Inorganica Chimica Acta (2002), 334, 54-58
CODEN: ICHAA3; ISSN: 0020-1693
PB Elsevier Science B.V.
DT Journal
LA English
OS CASREACT 137:63329
AB $M_2(CO)_6(\eta^5, \eta^5-C_5H_4CH_2C_5H_4)$ (M = Mo (1), W (2)) undergo protonation by CF_3SO_3H at the M-M bond to give $[M_2(CO)_6(\mu-H)(\eta^5, \eta^5-C_5H_4CH_2C_5H_4)]^+$ (M = Mo (4), W (5)) which were characterized by 1H NMR. Redn. of 1 and 2 with Na-K alloy followed by reaction with acid gives the bis(metal-hydride) compds. $[M(CO)_3H]_2(\eta^5, \eta^5-C_5H_4CH_2C_5H_4)$ (M = Mo (6), W (7)). These bis(metal-hydride) species are stable in soln. in the dark but undergo H loss to reform 1 and 2 when exposed to room light. 1 And 2 undergo photochem. rearrangement to the 'twist' products $[M(CO)_3][M(CO)_3H](\eta^5, \eta^5: \eta^5.1-C_5H_4CH_2C_5H_3)$. The W 'twist' product is thermally stable for several hours, but the Mo products rapidly return to 1. The Mo 'twist' products of 1 and $Mo_2(CO)_6(\eta^5, \eta^5-C_5H_4CMe_2C_5H_4)$ (3) may be efficiently trapped as their chlorides by carrying out the photolysis in 20% $CHCl_3$ in benzene. Photochem. studies of the efficiency of this reaction as a function of wavelength indicate that the 'twist' reaction requires photolysis into the higher energy band

at 380 nm and does not proceed upon photolysis into the lower energy transition at 529 nm. The mol. structure of $[\text{Mo}(\text{CO})_3][\text{Mo}(\text{CO})_3\text{Cl}]$ (η^5 , η^5 - $\text{C}_5\text{H}_4\text{CH}_2\text{C}_5\text{H}_3$) (9) was detd.: monoclinic, space group $P2_1/c$, a 9.257(3), b 15.211(5), c 13.263(4) Å, β 107.76(2)°, V = 1778.7(10) Å³, Z = 4, T = 218 K, R = 3.24%.

L4 ANSWER 2 OF 23 CAPLUS COPYRIGHT 2002 ACS

AN 2002:125469 CAPLUS

DN 137:109344

TI Bis-indenyl molybdenum(IV) halide complexes: synthesis and X-ray studies
 AU Drew, Michael G. B.; Felix, Vitor; Romao, Carlos C.; Royo, Beatriz
 CS Department of Chemistry, University of Reading, Reading, Whiteknights, RG6 6AD, UK

SO Journal of the Chemical Society, Dalton Transactions (2002), (4), 584-590
 CODEN: JCSDA; ISSN: 1472-7773

PB Royal Society of Chemistry

DT Journal

LA English

OS CASREACT 137:109344

AB A stepwise route to bis-indenyl halide derivs. of Mo is reported. Treatment of $[\text{Ind}_2\text{Mo}(\text{CO})_2][\text{BF}_4]_2$ with one equiv Bu_4NBr in CH_2Cl_2 yielded 80% $[\text{Ind}_2\text{Mo}(\text{CO})\text{Br}][\text{BF}_4]$ (1). When 1 was refluxed in NCMe and irradiated with a 60 W tungsten bulb $[\text{Ind}_2\text{Mo}(\text{NCMe})\text{Br}][\text{BF}_4]$ (2) was isolated in 94% yield. The reaction of $[\text{Ind}_2\text{Mo}(\text{CO})\text{Br}][\text{BF}_4]$ with LiBr afforded 71% $\text{Ind}_2\text{MoBr}_2$ (3). The $\text{Ind}_2\text{MoCl}_2$ (4) analog was prepd. in 68% yield directly by reaction of $[\text{Ind}_2\text{Mo}(\text{CO})_2][\text{BF}_4]_2$ with LiCl. The reaction of $\text{Ind}_2\text{MoBr}_2$ with AlMe_3 in toluene produces 71% of the bromo-Me species $\text{Ind}_2\text{MoBrMe}$ (5). Treatment of $\text{Ind}_2\text{MoBr}_2$ with TiPF_6 in the presence of $\text{P}(\text{OMe})_3$ afforded 92% $[\text{Ind}_2\text{Mo}\{\text{P}(\text{OMe})_3\}_2][\text{PF}_6]_2$ (6) which was readily reduced by two equiv of cobaltocene to yield 83% of the neutral species $\text{Ind}_2\text{Mo}\{\text{P}(\text{OMe})_3\}_2$ (7). Reaction of $[\text{Ind}_2\text{Mo}(\text{CO})_2][\text{BF}_4]_2$ with $\text{P}(\text{OMe})_3$ in CH_2Cl_2 yielded 76% $[\text{Ind}_2\text{Mo}(\text{CO})\text{Cl}][\text{BF}_4]$ (8). The mol. structures of $[\text{Ind}_2\text{Mo}(\text{CO})\text{X}][\text{BF}_4]$ [$\text{X} = \text{Cl}$ (8) or Br (1)], $\text{Ind}_2\text{MoBr}_2$ (3) and $[\text{Ind}_2\text{Mo}\{\text{P}(\text{OMe})_3\}_2][\text{PF}_6]_2$ (6) were detd. by single crystal x-ray diffraction. The synthesis and characterization of $[(\eta^3\text{-Ind})\text{Mo}(\text{CO})_2]_2[\mu\text{-}(\eta^5\text{-}(\text{C}_5\text{H}_4)_2\text{SiMe}_2)]$ (9) from $\text{IndMoCl}_3(\text{CO})_2$ and $[\text{Me}_2\text{Si}(\eta^5\text{-C}_5\text{H}_4)_2]\text{Li}_2$ in THF in 80% yield is also reported.

RE.CNT 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 3 OF 23 CAPLUS COPYRIGHT 2002 ACS

AN 1999:575591 CAPLUS

DN 131:271992

TI Cooperative effects in π -ligand bridged dinuclear complexes XXII. New dinuclear bis(cyclopentadienediyl)ketone complexes containing molybdenum, tungsten, cobalt and iron

AU Kornich, Jan; Haubold, Stephan; He, Jin; Reimelt, Oliver; Heck, Jurgen
 CS Institut für Angewandte und Anorganische Chemie, Universität Hamburg, Hamburg, D-20146, Germany

SO Journal of Organometallic Chemistry (1999), 584(2), 329-337
 CODEN: JORCAI; ISSN: 0022-328X

PB Elsevier Science S.A.

DT Journal

LA English

OS CASREACT 131:271992

AB Hydrolysis of the siloxyfulvene compds. $\{\text{M}\}[\eta^5\text{-C}_5\text{H}_4\text{C}(\text{OTMS})(\text{C}_5\text{Me}_4)]$ ($\{\text{M}\} = \text{Mo}(\text{CO})_3\text{Me}$: 1a; $\{\text{M}\} = \text{W}(\text{CO})_3\text{Me}$: 1b) affords $\{\text{M}\}[\eta^5\text{-C}_5\text{H}_4\text{C}(\text{O})(\text{CsMe}_4\text{H})]$ ($\{\text{M}\} = \text{Mo}(\text{CO})_3\text{Me}$: 3a; $\{\text{M}\} = \text{W}(\text{CO})_3\text{Me}$: 3b) which are suitable precursors for the synthesis of dinuclear complexes. The reactivity of the molybdenum and the tungsten compds. shows remarkable differences: heating of 3a with $\text{Co}_2(\text{CO})_8$ in the presence of 3,3-dimethylbut-1-ene reveals the heterodinuclear complex $\text{Me}(\text{CO})_3\text{Mo}[(\eta^5\text{-Mo})\text{-C}_5\text{H}_4\text{C}(\text{O})(\eta^5\text{-Co})\text{-C}_5\text{Me}_4]\text{Co}(\text{CO})_2$ (4a) along with the homodinuclear complex $(\text{CO})_2\text{Co}[(\eta^5\text{-}(\text{C}_5\text{H}_4)_2\text{SiMe}_2)]\text{Co}(\text{CO})_2$.

(5), the comparable reaction of 3b with $\text{Co}_2(\text{CO})_8$ results in the formation of the heterodinuclear complex $\text{Me}(\text{CO})_3\text{W}[(\eta^5\text{W}-\text{C}_5\text{H}_4)\text{C}(\text{O})(\eta^5\text{Co}-\text{C}_5\text{Me}_4)]\text{Co}(\text{CO})_2$ (4b) only. The metal-metal bound complexes $[(\eta^5\text{M}-\text{C}_5\text{H}_4)\text{C}(\text{O})(\eta^5\text{M}')\text{C}_5\text{Me}_4]\text{MM}'(\text{CO})_6$ ($\text{M}=\text{W}$, $\text{M}'=\text{Mo}$: 8; $\text{M}=\text{M}'=\text{W}$: 9; $\text{M}=\text{M}'=\text{Mo}$: 10) are synthesized from the reaction of 3a or 3b with $\text{M}'(\text{CO})_3(\text{EtCN})_3$ ($\text{M}'=\text{Mo}$, W). When $\text{Mo}(\text{CO})_6$ is used in place of $\text{Mo}(\text{CO})_3(\text{EtCN})_3$ 10 can also be obtained in addn. to $[(\eta^5\text{C}_5\text{H}_3\text{Me})\text{C}(\text{O})(\eta^5\text{C}_5\text{Me}_4)]\text{Mo}_2(\text{CO})_6$ ($\text{Mo}-\text{Mo}$) (12) as an unexpected byproduct. In complex 12 the cyclopentadienyl ligand is regioselectively methylated in the vicinal position to the bridge-head atom. The synthesis of $[(\eta^5\text{Mo}-\text{C}_5\text{H}_4)\text{C}(\text{O})(\eta^5\text{Fe}-\text{C}_5\text{Me}_4)]\text{MoFe}(\text{CO})_5$ ($\text{Mo}-\text{Fe}$) (14) is achieved by reaction of 3a with $\text{Fe}(\text{CO})_3(\text{C}_8\text{H}_{14})$. An x-ray diffraction study of the mononuclear siloxyfulvene $\text{Me}(\text{CO})_3\text{W}[(\eta^5\text{C}_5\text{H}_4\text{C}(\text{OSiMe}_2\text{t-Bu})(\text{C}_5\text{Me}_4)]$ (2) proves the fulvene-like structure of the uncoordinated tetramethylated cyclo-C5-moiety.

RE.CNT 50 THERE ARE 50 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 4 OF 23 CAPLUS COPYRIGHT 2002 ACS

AN 1999:568759 CAPLUS

DN 131:322742

TI Derivatization of the bridge function in homo- and heterodinuclear μ -Bis(cyclopentadienyl) ketone complexes: stereogenic carbon atoms and vinylidene as a bridge between two Cp ligands

AU Kornich, J.; Heck, J.

CS Institut für Anorganische und Angewandte Chemie, Hamburg, D-20146, Germany

SO Journal of Organometallic Chemistry (1999), 586(2), 111-118

CODEN: JORCAI; ISSN: 0022-328X

PB Elsevier Science S.A.

DT Journal

LA German

OS CASREACT 131:322742

AB Homo- and heterodinuclear bis(cyclopentadienyl) ketone complexes can be derivatized in the keto-bridge. The complexes $[(\eta^5\text{M})-(\text{C}_5\text{H}_4)\text{C}(\text{O})(\eta^5\text{M}')-(\text{C}_5\text{Me}_4)]\text{MLnM}'\text{L}'\text{m}$ ($\text{MLn}=\text{W}(\text{CO})_3\text{Me}$, $\text{M}'\text{L}'\text{m}=\text{Co}(\text{CO})_2$: 2a; $\text{MLn}=\text{Mn}(\text{CO})_3$, $\text{M}'\text{L}'\text{m}=\text{Co}(\text{CO})_2$: 2b; $\text{MLn}=\text{W}(\text{CO})_3$, $\text{M}'\text{L}'\text{m}=\text{Ru}(\text{CO})_2$, ($\text{W}-\text{Ru}$): 2c; $\text{MLn}=\text{M}'\text{L}'\text{m}=\text{Fe}(\text{CO})_2$, ($\text{Fe}-\text{Fe}$): 2d) undergo reaction with Ph_3PCH_2 to form the dinuclear bis(cyclopentadienyl)vinylidene complexes $[(\eta^5\text{M})-(\text{C}_5\text{H}_4)\text{C}(\text{CH}_2)(\eta^5\text{M}')-(\text{C}_5\text{Me}_4)]\text{MLnM}'\text{L}'\text{m}$ ($\text{MLn}=\text{W}(\text{CO})_3\text{Me}$, $\text{M}'\text{L}'\text{m}=\text{Co}(\text{CO})_2$: 3a; $\text{MLn}=\text{Mn}(\text{CO})_3$, $\text{M}'\text{L}'\text{m}=\text{Co}(\text{CO})_2$: 3b; $\text{MLn}=\text{W}(\text{CO})_3$, $\text{M}'\text{L}'\text{m}=\text{Ru}(\text{CO})_2$, ($\text{W}-\text{Ru}$): 3c; $\text{MLn}=\text{M}'\text{L}'\text{m}=\text{Fe}(\text{CO})_2$, ($\text{Fe}-\text{Fe}$): 3d). The mol. structure of the bis(cyclopentadienyl)vinylidene complex 3c has been detd.: triclinic, $P1$, $a=821.9(2)$ pm, $b=874.4(2)$ pm, $c=1587.2(10)$ pm, $\alpha=83.70(4)^\circ$, $\beta=75.06(4)^\circ$, $\gamma=64.79(2)^\circ$, $V=997.1$ nm³, $Z=2$, $R1=0.0519$. The keto-bridge can even be reduced to a secondary alc.: 2b and $[(\eta^5\text{W})-(\text{C}_5\text{H}_4)\text{C}(\text{O})(\eta^5\text{Fe}-\text{C}_5\text{Me}_4)]\text{WFe}(\text{CO})_5$ ($\text{W}-\text{Fe}$) (4) react with NaBH_4 revealing the corresponding carbinol complexes $[(\eta^5\text{M})-(\text{C}_5\text{H}_4)\text{CH}(\text{OH})(\eta^5\text{M}')-(\text{C}_5\text{Me}_4)]\text{MLnM}'\text{L}'\text{m}$ ($\text{MLn}=\text{W}(\text{CO})_3\text{Me}$, $\text{M}'\text{L}'\text{m}=\text{Co}(\text{CO})_2$: 5a; $\text{MLn}=\text{W}(\text{CO})_3$, $\text{M}'\text{L}'\text{m}=\text{Fe}(\text{CO})_2$, ($\text{W}-\text{Fe}$): 5b). The extent of the formation of 5b depends on the pH value: the hydrolytic workup procedure in ethanol at pH.apprxeq.2 yields the alc. 5b as well as the corresponding ethylether $[(\eta^5\text{W})-(\text{C}_5\text{H}_4)\text{CH}(\text{OEt})(\eta^5\text{Fe}-\text{C}_5\text{Me}_4)]\text{WFe}(\text{CO})_5$ ($\text{W}-\text{Fe}$) (6) in equal amts., whereas at pH.gtoreq.5 5b is formed exclusively in a yield of more than 80%.

RE.CNT 35 THERE ARE 35 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 5 OF 23 CAPLUS COPYRIGHT 2002 ACS

AN 1999:327315 CAPLUS

DN 131:88000

TI Synthesis and Characterization of Tetrahydrofurfurylcyclopentadienyl Molybdenum Tricarbonyl Dimer: Evidence for 19-Electron Intramolecular "Solvento" Interactions

AU Gallagher, Michelle; Dougherty, Pat; Tanner, Pamela S.; Barbini, Denis C.;
 Schulte, Jurgen; Jones, Wayne E., Jr.
 CS Department of Chemistry, St. Joseph's University, Philadelphia, PA,
 19131-1395, USA
 SO Inorganic Chemistry (1999), 38(12), 2953-2956
 CODEN: INOCAJ; ISSN: 0020-1669
 PB American Chemical Society
 DT Journal
 LA English
 AB The synthesis and characterization of a THF pendant, dimeric Mo
 cyclopentadienyl complex is reported and the structure characterized by
 NMR, FTIR, and UV-vis spectroscopies. The dimer was found to undergo
 metal-metal bond homolysis under either photochem. or electrochem.
 conditions to yield an odd-electron complex. Cyclic voltammetry under
 varying scan rate conditions from 25 to 10,000 mV/s demonstrates a dynamic
 equil. process that we assign to the formation of either an intramol.
 19-electron ($18 + \Delta$) complex or a bare 17-electron complex.
 Photolysis of the dimer in room temp. soln. could be monitored as a loss
 of the d.p.i.-d.sigma.* transition at 503 nm by transient absorption
 spectroscopy. The recovery of the transient absorption signal at 410 nm
 follows first-order kinetics at a rate of 5 times. 10^3 s⁻¹.
 RE.CNT 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 6 OF 23 CAPLUS COPYRIGHT 2002 ACS
 AN 1997:702498 CAPLUS
 DN 128:3789
 TI Cooperative effect in pi.-ligand-bridged dinuclear complexes. XX. New
 strategy for synthesis of heterodinuclear complexes with a
 bis(cyclopentadienyl) bridging ligand
 AU Heck, Jurgen; Kornich, Jan
 CS Inst. Anorganische und Angewandte Chemie, Univ. Hamburg
 Martin-Luther-King-Platz 6, Hamburg, D-20146, Germany
 SO Journal of Organometallic Chemistry (1997), 543(1-2), 153-163
 CODEN: JORCAI; ISSN: 0022-328X
 PB Elsevier
 DT Journal
 LA German
 AB The reaction of $\{M\}[\eta^5\text{-C}_5\text{H}_4\text{C}(\text{O})\text{OMe}]$ ($\{M\} = \text{W}(\text{CO})_3\text{Me}$: 1a; $\{M\} =$
 $\text{Mn}(\text{CO})_3$: 1b) with tetramethylcyclopentadienyllithium and Me_3SiCl ,
 subsequently, reveals $\{M\}[\eta^5\text{-C}_5\text{H}_4\text{C}(\text{OTMS})(\text{C}_5\text{Me}_4)]$ (OTMS = OSiMe_3 ; $\{M\} =$
 $\text{W}(\text{CO})_3\text{Me}$: 2a; $\{M\} = \text{Mn}(\text{CO})_3$: 2b) in high yields. Hydrolysis of 2a and 2b
 results quant. in the formation of $\{M\}[\eta^5\text{-C}_5\text{H}_4\text{C}(\text{O})(\text{C}_5\text{Me}_4\text{H})]$ ($\{M\} =$
 $\text{W}(\text{CO})_3\text{Me}$: 3a; $\{M\} = \text{Mn}(\text{CO})_3$: 3b). 2a,b and 3a,b are versatile precursors
 for the synthesis of homo- and heterodinuclear complexes contg. a
 bis(cyclopentadienyl) ketone ligand. Deprotonation of 3a and further
 reaction with $[\text{Rh}(\text{CO})_2\text{Cl}]_2$ yields $(\text{Me})(\text{CO})_3\text{W}[\eta^5\text{-W}(\text{C}_5\text{H}_4)\text{C}(\text{O}) -$
 $\eta^5\text{-Rh}(\text{C}_5\text{Me}_4)]\text{Rh}(\text{CO})_2$ (4a). 4A is also obtained by using 2a instead
 of 3a. Taking 2a and 2b in corresponding reactions,
 $(\text{CO})_3\text{Mn}[\eta^5\text{-Mn}(\text{C}_5\text{H}_4)\text{C}(\text{O})\eta^5\text{-Rh}(\text{C}_5\text{Me}_4)]\text{Rh}(\text{CO})_2$ (4b),
 $(\text{Me})(\text{CO})_3\text{W}[\eta^5\text{-W}(\text{C}_5\text{H}_4)\text{C}(\text{O})\eta^5\text{-Rh}(\text{C}_5\text{Me}_4)]\text{Rh}(\text{C}_7\text{H}_8)$ (5) ($\text{C}_7\text{H}_8 =$
 norborna-2,5-diene) and $(\text{CO})_3\text{Mn}[\eta^5\text{-Mn}(\text{C}_5\text{H}_4)\text{C}(\text{O})\eta^5\text{-Ir}(\text{C}_5\text{Me}_4)]\text{Ir}(\text{C}$
 $8\text{H}_{12})$ (6) ($\text{C}_8\text{H}_{12} = \text{cycloocta-1,5-diene}$) can be synthesized as well.
 Heating of 3a,b with $\text{Co}_2(\text{CO})_8$ and 3,3-dimethylbut-1-ene in refluxing THF
 affords $\{M\}[\eta^5\text{-M}(\text{C}_5\text{H}_4)\text{C}(\text{O}) - \eta^5\text{-Co}(\text{C}_5\text{Me}_4)]\text{Co}(\text{CO})_2$ ($\{M\} = \text{W}(\text{CO})_3\text{Me}$:
 7a; $\{M\} = \text{Mn}(\text{CO})_3$: 7b). The metal-metal bound compds.
 $(\text{CO})_3\text{W}[\eta^5\text{-W}(\text{C}_5\text{H}_4)\text{C}(\text{O}) - \eta^5\text{-M}(\text{C}_5\text{Me}_4)]\text{M}(\text{CO})_2$ (W-M) (M = Ru: 8; M =
 Fe: 9) are formed during the reaction of 3a with the corresponding
 carbonyl metal complexes in refluxing diglyme. Heating of 3a with a
 4.5-fold excess of $\text{Fe}(\text{CO})_5$ yields the homodinuclear complex
 $(\text{CO})_2\text{Fe}[\eta^5\text{-C}_5\text{H}_4\text{C}(\text{O}) - \eta^5\text{-C}_5\text{Me}_4]\text{Fe}(\text{CO})_2$ (Fe-Fe) (10) and
 $(\text{CO})_3\text{W}[\eta^5\text{-W}(\text{C}_5\text{H}_4)\text{CH}_2 - \eta^5\text{-Fe}(\text{C}_5\text{Me}_4)]\text{Fe}(\text{CO})_2$ (W-Fe) (11) as
 unexpected products. 11 Contains a completely hydrogenated sp³ carbon
 atom as a linker between the two cyclopentadienyl moieties. X-ray

diffraction studies of 2b, 5, 7a, 8 and 10 are reported.

L4 ANSWER 7 OF 23 CAPLUS COPYRIGHT 2002 ACS

AN 1997:383108 CAPLUS

DN 127:81547

TI Convergent synthetic routes to heterobimetallic compounds: crystal and molecular structure of 1-(η^5 -cyclopentadienyl)manganese tricarbonyl)-1-(η^6 -phenylchromium tricarbonyl)ethanol

AU Bitterwolf, Thomas E.; Everly, Stephen C.; Rheingold, Arnold L.; Yapp, Glen

CS Department of Chemistry, University of Idaho, Moscow, USA

SO Journal of Organometallic Chemistry (1997), 531(1-2), 1-7

CODEN: JORCAI; ISSN: 0022-328X

PB Elsevier

DT Journal

LA English

AB 13 Heterobimetallic compds. have been prepd. by a convergent synthetic strategy employing reactions of a lithiocyclopentadienyl or lithioarene metal complex with formyl, acetyl or carbomethoxy functionalized derivs. of a second metal. The resulting lithium alkoxide products were converted to the corresponding alcs. by dil. acid work-up. Two methanol derivs. were successfully converted to their corresponding methane derivs. by reaction with trifluoroacetic acid followed by reaction of the resultant carbocation with sodium tetrahydroborate. Reaction of 1-[(η^6 -C₆H₅Cr(CO)₃]-1-[(η^5 -C₅H₄Mn(CO)₃]C₂H₃OH with trifluoroacetic acid results in dehydration to yield the corresponding ethene deriv. The mol. structure of 1-[(η^6 -C₆H₅Cr(CO)₃]-1-[(η^5 -C₅H₄Mn(CO)₃]C₂H₃OH was detd.: monoclinic, P2₁/c, a = 7.936(2), b = 19.844(8), c = 11.774(4) .ANG., .beta. = 91.58(2).degree., V = 1853(1) .ANG.³, Z = 4, R(F) = 4.52%.

L4 ANSWER 8 OF 23 CAPLUS COPYRIGHT 2002 ACS

AN 1997:46558 CAPLUS

DN 126:131575

TI Synthesis and characterization of ring-coupled cyclopentadienyl and indenyl bimetallic derivatives of Cr, Mo and W

AU Fierro, Ricardo; Bitterwolf, Thomas E.; Rheingold, Arnold L.; Yap, Glenn P. A.; Liabre-Sands, Louise M.

CS Department of Chemistry, University of Idaho, Moscow, ID, 83844-2343, USA

SO Journal of Organometallic Chemistry (1996), 524(1-2), 19-30

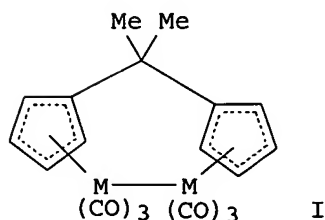
CODEN: JORCAI; ISSN: 0022-328X

PB Elsevier

DT Journal

LA English

GI

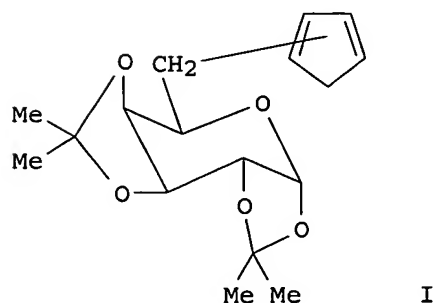


AB New ring-coupled bimetallic complexes M₂(CO)₆[(η^5 , η^5 -C₅H₄-CMe₂-C₅H₄)] (I, where M = Cr, Mo, W) were synthesized by reaction of the dianion of the ligand 2,2-bis(cyclopentadienyl)propane and M(CO)₃(MeCN)₃. Oxidn. with HOAc-Fe(III) produced the bimetallic complexes in moderate yields. Using the same strategy, reactions of Mo(CO)₃(MeCN)₃ with the dianion of 2-cyclopentadienyl-2-indenylpropane produced only the dimer [Mo(CO)₃[(η^5 -C₅H₄-CMe₂-C₉H₇)]₂ in which the indenyl ring was

unmetalated. Subsequent detailed studies revealed that the desired dimetalloanion was initially formed, but that the indenyl bound metal was lost upon protonation. Evidence for the mechanism of this demetalation process is presented. The dimetalloanion could be intercepted by Me iodide to form $[\text{Mo}(\text{CO})_3\text{CH}_3]_2[\eta^5, \eta^5\text{-C}_5\text{H}_4\text{-CMe}_2\text{-C}_9\text{H}_6]$. Synthesis of $\text{Mo}_2(\text{CO})_6[\eta^5, \eta^5\text{-C}_5\text{H}_4\text{-CMe}_2\text{-(3-RC}_9\text{H}_5)]$, where R = H, CH₃, was achieved by aprotic oxidn. of the intermediate dimetalloanion by ferricinium tetraphenylborate. The mol. structures of two compds. are reported: $\text{Mo}_2(\text{CO})_6[\eta^5, \eta^5\text{-C}_5\text{H}_4\text{-CMe}_2\text{-(3-CH}_3\text{C}_9\text{H}_5)]$: triclinic, space group P.hivin.1, a 8.777(3), b 9.428(4), c 14.915(4) .ANG., .alpha. 91.42(3), .beta. 102.04(3), .gamma. 114.69(3).degree., Z = 2, R = 3.03%. $[\text{Mo}(\text{CO})_3\text{CH}_3]_2[\eta^5, \eta^5\text{-C}_5\text{H}_4\text{-CMe}_2\text{-C}_9\text{H}_6]$: triclinic, P.hivin.1, a 8.298(6), b 11.662(6), c 13.241(8) .ANG., .alpha. 100.28(1), .beta. 93.02(1), .gamma. 99.72(1).degree., Z = 2, R = 3.99%.

L4 ANSWER 9 OF 23 CAPLUS COPYRIGHT 2002 ACS
 AN 1996:762030 CAPLUS
 DN 126:60243
 TI A simple route to chiral carbohydrate-cyclopentadienyl and -indenyl ligands. [Erratum to document cited in CA126:19113]
 AU Lai, Richard; Martin, Sandrine
 CS Fac. Saint-Jerome, Univ. Aix-Marseille III, Marseille, F-13013, Fr.
 SO Tetrahedron: Asymmetry (1996), 7(12), 3333
 CODEN: TASYE3; ISSN: 0957-4166
 PB Elsevier
 DT Journal
 LA English
 AB The errors were not reflected in the abstr. or the index entries.

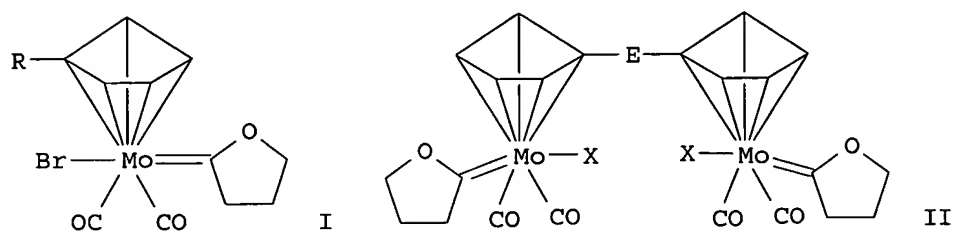
L4 ANSWER 10 OF 23 CAPLUS COPYRIGHT 2002 ACS
 AN 1996:645494 CAPLUS
 DN 126:19113
 TI A simple route to chiral carbohydrate-cyclopentadienyl and -indenyl ligands
 AU Lai, Richard; Martin, Sandrine
 CS Fac. Saint-Jerome, Univ. Aix-Marseille III, Marseille, F-13013, Fr.
 SO Tetrahedron: Asymmetry (1996), 7(10), 2783-2786
 CODEN: TASYE3; ISSN: 0957-4166
 PB Elsevier
 DT Journal
 LA English
 OS CASREACT 126:19113
 GI



AB Trifluoromethanesulfonates derived from acetal protected .alpha.-D-galactopyranose and .alpha.-D-glucofuranose react with cyclopentadienyl and indenyl lithium to give optically active

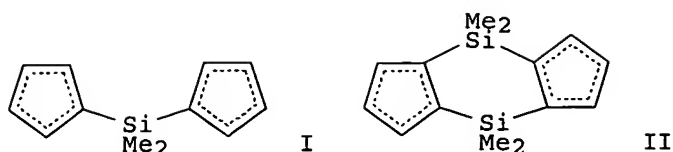
carbohydrate-substituted cyclopentadienes, e.g. I, and indenenes in good to moderate yields. Because of the double bonds tautomerism of the cyclopentadiene unit I have been characterized as their cyclopentadienyl molybdenum complexes.

L4 ANSWER 11 OF 23 CAPLUS COPYRIGHT 2002 ACS
 AN 1996:318002 CAPLUS
 DN 125:86787
 TI Reaction of tricarbonylcyclopentadienyl molybdenum anion with 1,3-dihalopropane
 AU Jin, Ren-Zhi; Xu, Shan-Sheng; Zhou, Xiu-Zhong; Wang, Ru-Ji; Wang, Hong-Gen
 CS Dep. of Chemistry, Nankai University, Tianjin, 300071, Peop. Rep. China
 SO Gaodeng Xuexiao Huaxue Xuebao (1996), 17(5), 722-726
 CODEN: KTHPDM; ISSN: 0251-0790
 PB Gaodeng Jiaoyu Chubanshe
 DT Journal
 LA Chinese
 GI



AB Reaction of tricarbonylcyclopentadienyl molybdenum anions with $\text{Br}(\text{CH}_2)_3\text{Br}$ in diglyme gave the cyclic carbene of molybdenum complex I ($\text{R} = \text{H}, \text{Me}, \text{Me}_3\text{Si}$). The similar reaction of sila-bridged biscyclopentadienyltricarbonyl molybdenum anion with 1,3-dihalopropane proceeds smoothly to afford the corresponding sila-bridged bis[cyclic carbene molybdenum] complexes II ($\text{E} = \text{Me}_2\text{Si}, \text{Me}_2\text{SiSiMe}_2, \text{Me}_2\text{SiOSiMe}_2, \text{X} = \text{Br}, \text{I}$). The crystal structure of II ($\text{X} = \text{I}, \text{E} = \text{Me}_2\text{SiOSiMe}_2$) was detd. by x-ray crystallog. The crystal is triclinic, space group $\text{P}\bar{1}$ with $a = 0.818\ 8(1)\ \text{nm}$, $b = 1.045\ 4(3)\ \text{nm}$, $c = 2.332\ 5(4)\ \text{nm}$, $\alpha = 94.14(2)^\circ$, $\beta = 94.07(1)^\circ$, $\gamma = 102.48(2)^\circ$, $V = 1.930\ 6\ \text{nm}^3$, $Z = 2$, $D_c = 1.854\ \text{g/cm}^3$.

L4 ANSWER 12 OF 23 CAPLUS COPYRIGHT 2002 ACS
 AN 1995:993256 CAPLUS
 DN 124:146384
 TI Low-Oxidation-State Molybdenum and Tungsten Complexes with Bis(η^5 -cyclopentadienyl) Bridges
 AU Amor, Francisco; de Jesus, Ernesto; Perez, Ana I.; Royo, Pascual; Vazquez de Miguel, Amelio
 CS Departamento de Quimica Inorganica, Universidad de Alcala de Henares, Alcala de Henares, 28871, Spain
 SO Organometallics (1996), 15(1), 365-9
 CODEN: ORGND7; ISSN: 0276-7333
 PB American Chemical Society
 DT Journal
 LA English
 GI



AB The paper describes the prepn. of new dinuclear Mo and W complexes bridged by Cp1Cp, I, or Cp2Cp, II, ligands. $[\{W(CO)_3H\}_2(\mu\text{-}\eta^5\text{-}\eta^5\text{-Cp}_2\text{Cp})]$ (5) or $K_2[\{W(CO)_3\}_2(\mu\text{-}\eta^5\text{-}\eta^5\text{-Cp}_2\text{Cp})]$ (6) were obtained by reaction of $[W(CO)_3(NCMe)_3]$ with HCp2CpH or $K_2(Cp_2Cp)$, resp., as a cis-trans mixt. of isomers which differ in the stereodisposition of the two metals with respect to the Cp2Cp system. Cis- and trans-5 were sepd. and reacted with CCl_4 to give $[\{W(CO)_3Cl\}_2(\mu\text{-}\eta^5\text{-}\eta^5\text{-Cp}_2\text{Cp})]$ (cis- or trans-7). Reaction of $[\{Mo(CO)_3X\}_2(\mu\text{-}\eta^5\text{-}\eta^5\text{-Cp}_n\text{Cp})]$ ($n = 1$, $X = H$ (1), Cl (3); $n = 2$, $X = H$ (2), Cl (4)) with CNTBu gives $[\{Mo(CO)_2(CNTBu)X\}_2(\mu\text{-}\eta^5\text{-}\eta^5\text{-Cp}_n\text{Cp})]$ (8-11). Reaction of 9 with KH gives $K_2[\{Mo(CO)_2(CNTBu)\}_2(\mu\text{-}\eta^5\text{-}\eta^5\text{-Cp}_2\text{Cp})]$ (12). The cis isomers of the chloro derivs. 4, 7, or 11 are reduced to the dinuclear metal-metal-bonded complexes $[\{M(CO)_2L\}_2(\mu\text{-}\eta^5\text{-}\eta^5\text{-Cp}_2\text{Cp})]$ (M-M) ($L = CO$, $M = Mo$ (13), W (15), $L = CNTBu$, $M = Mo$ (16)) by reaction with $MeMgCl$, whereas the trans isomer of 4 affords the polymer $[\{Mo(CO)_3\}_2(\mu\text{-}\eta^5\text{-}\eta^5\text{-Cp}_2\text{Cp})]_n(Mo-Mo)$ (17). Cis-2 reacts with H_2O_2 to give a mixt. of 13 and $[\{Mo(CO)_3\}_2(\mu\text{-}\eta^5\text{-}\eta^5\text{-C}_5\text{H}_3(\text{SiMe}_2\text{OH})\text{SiMe}_2\text{C}_5\text{H}_4)]$ (Mo-Mo) (14).

L4 ANSWER 13 OF 23 CAPLUS COPYRIGHT 2002 ACS

AN 1995:805158 CAPLUS

DN 124:29992

TI The bis(cyclopentadienyl)methane link between Lewis basic and Lewis acidic metal centers

AU Stempfle, Bernd; Schmidt, Simone; Sundermeyer, Joerg; Werner, Helmut

CS Inst. Anorganische Chem., Univ. Wuerzburg, Wuerzburg, D-97074, Germany

SO Chemische Berichte (1995), 128(9), 877-81

CODEN: CHBEAM; ISSN: 0009-2940

PB VCH

DT Journal

LA English

AB $[(C_5H_5CH_2C_5H_4)Rh(CO)_2]$ (I) and $[(C_5H_5CH_2C_5H_4)Rh(PhC:CPh)\{P(CHMe_2)_3\}]$ (II) readily react with BuLi or TlOEt to yield the corresponding Li (III) or Tl salts (IV). The reaction of these with $[(C_5H_5)Nb\{NCMe_3\}Cl_2]$ (V) lead to $[\{CH_2(C_5H_4)_2\}\{Rh(CO)_2\}\{(C_5H_5)Nb(NCMe_3)Cl\}]$ and $[\{CH_2(C_5H_4)_2\}\{Rh(PhC.tplbond.CPh)\{P(CHMe_2)_3\}\}\{(C_5H_5)Nb(NCMe_3)Cl\}]$, resp. Treatment of III-IV with $[Mo(NCMe_3)_2Cl_2]$ (VI) gave $[\{CH_2(C_5H_4)_2\}\{Rh(CO)_2\}\{Mo(NCMe_3)_2Cl\}]$ and $[\{CH_2(C_5H_4)_2\}\{Rh(PhC.tplbond.CPh)\{P(CHMe_2)_3\}\}\{Mo(NCMe_3)_2Cl\}]$. The analogous reaction of $[Mo(NMs)_2Cl_2(DME)]$ (VII) with III-IV yields $[\{CH_2(C_5H_4)_2\}\{Rh(CO)_2\}\{Mo(NMs)_2Cl\}]$ and $[\{CH_2(C_5H_4)_2\}\{Rh(PhC.tplbond.CPh)\{P(CHMe_2)_3\}\}\{Mo(NMs)_2Cl\}]$. From the ligand $[(C_5H_5CH_2C_5H_4)M]$ ($M = Li, Tl$) and the imidometal compds. V-VII, $[(C_5H_5CH_2C_5H_4)(C_5H_5)Nb(NCMe_3)Cl]$ and $[(C_5H_5CH_2C_5H_4)Mo(NR)_2Cl]$ ($R = CMe_3, Ms$) were obtained.

L4 ANSWER 14 OF 23 CAPLUS COPYRIGHT 2002 ACS

AN 1995:699234 CAPLUS

DN 123:199035

TI Bimetallic Complexes with Chiral Molybdenum Centers and Bis(η^5 -cyclopentadienyl) Bridges: Interchange between Legs in Three-Legged Piano Stool Complexes

AU Galakhov, Mijail V.; Gil, Alicia; de Jesus, Ernesto; Royo, Pascual

CS Departamento de Quimica Inorganica, Universidad de Alcala de Henares, Madrid, 28871, Spain

SO Organometallics (1995), 14(8), 3746-50

CODEN: ORGND7; ISSN: 0276-7333

PB American Chemical Society

DT Journal

LA English

OS CASREACT 123:199035

AB Reactions of $[\{\text{Mo}(\text{CO})_3\text{Cl}\}_2(\mu\text{-CpCp})]$ ($\text{CpCp} = (\eta\text{-5-C}_5\text{H}_4)_2\text{SiMe}_2$ (1a) or $(\eta\text{-5-C}_5\text{H}_3)_2(\text{SiMe}_2)_2$ (1b)) with AgBF_4 and with 2-butyne in THF gave $[\{\text{Mo}(\text{CO})(\eta\text{-2-MeCCMe})_2\}_2(\mu\text{-CpCp})][\text{BF}_4]_2$ (2a,b). Addn. of PPh_3 or PPh_4Cl to 2a or 2b results in the substitution of one 2-butyne ligand at each Mo center by PPh_3 or Cl^- , giving ionic $[\{\text{Mo}(\text{CO})(\eta\text{-2-MeCCMe})(\text{PPh}_3)\}_2(\mu\text{-CpCp})][\text{BF}_4]_2$ (3a,b) or neutral $[\{\text{Mo}(\text{CO})(\eta\text{-2-MeCCMe})\text{Cl}\}_2(\mu\text{-CpCp})]$ (5), resp. Addn. of dmpe ($\text{dmpe} = \text{dimethylphosphinoethane}$) to 2a gives the free carbonyl complex $[\{\text{Mo}(\eta\text{-2-MeCCMe})(\text{dmpe})\}_2(\mu\text{-CpCp})][\text{BF}_4]_2$ (4a). Complexes 3 and 5 are obtained as a ca. 1:1 mixt. of the RS isomer and the RR,SS racemate. The RR,SS racemate of 3a can be obtained >90% pure by slow crystn. of the 3a diastereomeric product mixt. In the absence of free ligands, conversion of RR,SS-3a into RS-3a is a first-order reaction with $k = (8 \pm 1) \times 10^{-5} \text{ s}^{-1}$ and $\Delta G^\ddagger = 94.6 \pm 0.2 \text{ kJ mol}^{-1}$ at 293 K, and the basic mechanism is likely to be intramol.

L4 ANSWER 15 OF 23 CAPLUS COPYRIGHT 2002 ACS

AN 1993:650119 CAPLUS

DN 119:250119

TI Synthesis of bimetallic complexes of molybdenum containing bis($\eta\text{-5-cyclopentadienyl}$)dimethylsilane or bis($\eta\text{-5-tetramethylcyclopentadienyl}$)dimethylsilane bridges. Crystal structure of $[\{\text{Mo}(\text{CO})_3\text{Cl}\}_2(\mu\text{-}(\eta\text{-5-C}_5\text{H}_4)_2\text{SiMe}_2)]$

AU Gomez-Sal, Pilar; de Jesus, Ernesto; Perez, Ana I.; Royo, Pascual

CS Dep. Quim. Inorg., Univ. Alcala de Henares, Alcala de Henares, 28871, Spain

SO Organometallics (1993), 12(11), 4633-9

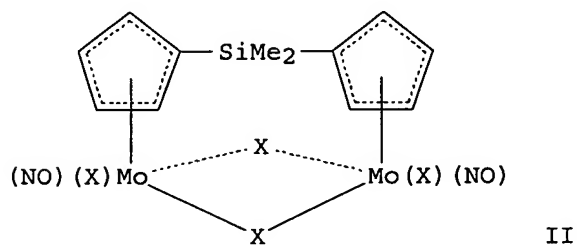
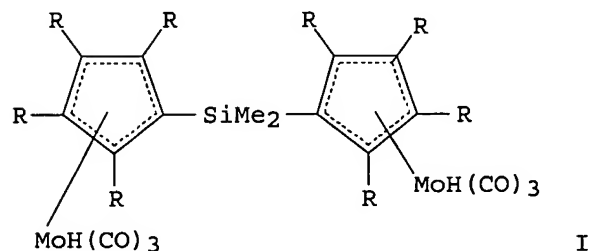
CODEN: ORGND7; ISSN: 0276-7333

DT Journal

LA English

OS CASREACT 119:250119

GI



AB Reaction of $(\text{arene})\text{Mo}(\text{CO})_3$ ($\text{arene} = \text{xylene, mesitylene}$) and $(\text{C}_5\text{R}_4)_2\text{SiMe}_2$ in THF at room temp. gives the bimetallic complexes $[(\text{Mo}(\text{CO})_3\text{H})_2(\mu\text{-}(\eta\text{-5-C}_5\text{R}_4)_2\text{SiMe}_2)]$ (I; $\text{R} = \text{H, Me}$). From I, other dimetallic complexes

of molybdenum are obtained in high yields. Reaction of I (R = H) with aq. H₂O₂ leads to the dimeric carbonyl [(Mo(CO)₃)₂(μ-(η⁵-C₅H₄)₂SiMe₂)](Mo-Mo). I (R = H) reacts with NaH to give the anion [(Mo(CO)₃)₂(μ-(η⁵-C₅H₄)₂SiMe₂)]²⁻ isolated as its sodium or tetrabutylammonium salt. Reactions of the sodium salt with p-CH₃C₆H₄SO₂N(NO)CH₃ (Diazald) leads to the nitrosyl deriv. [(Mo(CO)₂(NO))₂(μ-(η⁵-C₅H₄)₂SiMe₂)]₂, whose oxidn. with PCl₅, Br₂, or I₂ gives the halo complexes [(MoX₂(NO))₂(μ-(η⁵-C₅H₄)₂SiMe₂)] (II; X = Cl, Br, I), resp. I are easily transformed into the halides [(Mo(CO)₃Cl)₂(μ-(η⁵-C₅H₄)₂SiMe₂)] (III; same R) when dissolved in CCl₄ and can be also oxidized by PCl₅ to the tetrahalides [(MoCl₄)₂(μ-(η⁵-C₅H₄)₂SiMe₂)]₂. The variable-temp. 1H NMR spectra of complexes II in soln. support an 18e structure with two bridging and two terminal halides with fast interchange at room temp. (1H NMR scale) between cis and trans isomers through a 16e intermediate. The solid-state structure of III (R = H) has been detd. by a single-crystal x-ray anal. The coordination around the molybdenum atoms is four-legged piano stool, all the angles and distances having the usual values for this type of structure. The molybdenum atoms are exo with respect to the Cp-Si-Cp system, allowing the metals to be situated at a very long distance, 6.491 Å.

L4 ANSWER 16 OF 23 CAPLUS COPYRIGHT 2002 ACS
 AN 1990:158486 CAPLUS
 DN 112:158486
 TI Synthesis of novel substituted cyclopentadienes and their early transition metal complexes
 AU Clark, T. Jeffrey; Nile, Terence A.; McPhail, Donald; McPhail, Andrew T.
 CS Dep. Chem., Univ. North Carolina, Greensboro, NC, 27412, USA
 SO Polyhedron (1989), 8(13-14), 1804-6
 CODEN: PLYHDE; ISSN: 0277-5387
 DT Journal
 LA English
 OS CASREACT 112:158486
 AB Synthesis of two substituted cyclopentadienes, 1,3-bis(1-methylcyclohexyl)cyclopentadiene, Cp'H, and [2-methyl-2-(2-pyridyl)ethyl]cyclopentadiene, Cp''H, from fulvene intermediates is reported. These are readily converted to their early transition metal complexes Cp'W(CO)₃Me, Cp'Mo(CO)₃Me, Cp''W(CO)₃Me, and [Cp''Ti(O)Cl.cntdot.CH₂Cl₂]₂. The x-ray crystal structure of the Ti compd. shows that the N of the pyridine cyclopentadienyl substituent is coordinated to the Ti.

L4 ANSWER 17 OF 23 CAPLUS COPYRIGHT 2002 ACS
 AN 1989:574313 CAPLUS
 DN 111:174313
 TI The first heterodinuclear complexes with bis(cyclopentadienyl)methane bridges
 AU Haerter, Peter; Boguth, Guenther; Herdtweck, Eberhardt; Riede, Juergen
 CS Anorg.-Chem. Inst., Tech. Univ. Muenchen, Garching, D-8046, Fed. Rep. Ger.
 SO Angewandte Chemie (1989), 101(8), 1058-9
 CODEN: ANCEAD; ISSN: 0044-8249
 DT Journal
 LA German
 OS CASREACT 111:174313
 GI For diagram(s), see printed CA Issue.
 AB The reaction of cyclopentadienylmanganese complex I with aminofulvenes II (R = H, RR = CH:CHCH:CH) gave 42-57% III, which were lithiated with Li[HBet₃] to give IV. Treatment of IV with ICo(CO)₄, Mo(CO)₃(MeCN)₃ followed by Br, and with CpTiCl₃, gave 60-3% V [M = Co(CO)₂, Mo(CO)₃Br] and 69% VI, resp. The crystal structure of III (R = H) was detd.

L4 ANSWER 18 OF 23 CAPLUS COPYRIGHT 2002 ACS
 AN 1989:57804 CAPLUS

DN 110:57804
 TI Cooperative effect in π -ligand bridged binuclear complexes, VI. Cyclopentadienyl-bridged binuclear complexes $\text{Me}_2\text{Si}[(\text{C}_5\text{H}_4)\text{M}(\text{CO})_3]_2$ (M = tungsten, molybdenum, chromium) and $\text{Me}_2\text{Si}[(\text{C}_5\text{H}_4)\text{M}(\text{CO})_3\text{Cl}]_2$ (M = tungsten, molybdenum): synthesis and NMR spectroscopic characteristics
 AU Heck, Juergen; Kriebisch, Karin Anke; Mellinghoff, Heike
 CS Fachbereich Chem., Philipps-Univ., Marburg, D-3550, Fed. Rep. Ger.
 SO Chemische Berichte (1988), 121(10), 1753-7
 CODEN: CHBEAM; ISSN: 0009-2940
 DT Journal
 LA German
 OS CASREACT 110:57804
 AB The cyclopentadienyl-bridged binuclear complexes $\text{Me}_2\text{Si}[\text{Cp}'\text{M}(\text{CO})_3]_2$ (M = W, Mo, Cr) and $\text{Me}_2\text{Si}[\text{Cp}'\text{M}(\text{CO})_3\text{Cl}]_2$ (Cp' = C_5H_4 ; M = W, Mo) can be prepd. by reaction of $\text{M}(\text{CO})_3(\text{EtCN})_3$ (I; M = W, Mo, Cr) and $\text{Li}_2(\text{Me}_2\text{SiCp}'_2)$, followed by oxidn. with FeCl_3 in an aprotic medium. If the oxidn. is carried out in the presence of proton donors for M = Mo, a mixt. of $\text{Me}_2\text{Si}[\text{Cp}'\text{Mo}(\text{CO})_3]_2$ and $[\text{CpMo}(\text{CO})_3]_2$ (Cp = C_5H_5) can be obtained. A complete desilylation is ascertainable after reaction of I (M = Mo, Cr) with Me_2SiCp_2 (Cp = C_5H_5). For the Cp-bridged complexes the chiral C₂ symmetry is proved NMR-spectroscopically at low temp., and changes to the averaged achiral C_{2v}-symmetry with a barrier of activation $\Delta G^\ddagger_{\text{thermod.}} = 50\text{-}70 \text{ kJ mol}^{-1}$. Because of the linkage between the Cp ligands in $\text{Me}_2\text{Si}[\text{Cp}'\text{Cr}(\text{CO})_3]_2$, a cooperative interaction of the two neighboring Cr centers takes place, impeding the homolysis of the Cr-Cr bond compared to $[\text{CpCr}(\text{CO})_3]_2$.

L4 ANSWER 19 OF 23 CAPLUS COPYRIGHT 2002 ACS
 AN 1988:423090 CAPLUS
 DN 109:23090
 TI The preparation of a new series of bridged trinuclear complexes by reaction of η^5 -cyclopentadienyllithium compounds with alkyltrichlorosilanes
 AU Wright, Michael E.; Day, Victor W.
 CS Dep. Chem. Biochem., Utah State Univ., Logan, UT, 84322-0300, USA
 SO Journal of Organometallic Chemistry (1987), 329(1), 43-50
 CODEN: JORCAI; ISSN: 0022-328X
 DT Journal
 LA English
 OS CASREACT 109:23090
 AB Several new bridged trinuclear complexes $\text{RSi}[\eta^5\text{-C}_5\text{H}_4\text{M}(\text{CO})_{\text{nR1}}]_3$, were prepd. in good yield from the reaction of $(\eta^5\text{-C}_5\text{H}_4\text{Li})\text{M}(\text{CO})_{\text{nR1}}$ (M = Mn, W, Fe; R1 = Me, Et, benzyl) with various alkyl trichlorosilanes. The crystal and mol. structure of $\text{MeSi}[\eta^5\text{-C}_5\text{H}_4\text{Fe}(\text{CO})_2\text{C}_2\text{H}_5]_3$ is presented. In addn., some limitations of the direct cyclopentadienyl ring metalation are discussed.

L4 ANSWER 20 OF 23 CAPLUS COPYRIGHT 2002 ACS
 AN 1987:496836 CAPLUS
 DN 107:96836
 TI Rapid access to tungsten-183 NMR parameters of tungsten complexes via reverse 2D proton-tungsten-183 and phosphorus-31-tungsten-183 NMR spectroscopy
 AU Benn, Reinhard; Brenneke, Herbert; Heck, Juergen; Rufinska, Anna
 CS Max-Planck-Inst. Kohlenforsch., Muelheim and der Ruhr, D-4330, Fed. Rep. Ger.
 SO Inorganic Chemistry (1987), 26(17), 2826-9
 CODEN: INOCAJ; ISSN: 0020-1669
 DT Journal
 LA English
 GI For diagram(s), see printed CA Issue.
 AB The indirect, 2-dimensional, ³¹P-¹⁸³W and ¹H-¹⁸³W shift-correlation spectroscopy is presented for efficient access to ¹⁸³W NMR parameters of W complexes with a J(W,P) or J(W,H) coupling. For the bridged binuclear

$[W(CO)_3H]_2[\mu-(\eta^5-C_5H_4)_2SiMe_2]$ (I; $\eta^5-C_5H_5$ = cyclopentadienyl) and $[W(CO)_2]_2(\mu-H)(\mu-PMe_2)[\mu-(\eta^5-C_5H_4)_2SiMe_2]$ (II) and $[W(CO)_3](\mu-PMe_2)_2[\mu-(\eta^5-C_5H_4)_2SiMe_2]$ (III), the indirect observation scheme is more sensitive than the 1-dimensional polarization-transfer (INEPT) technique by a factor of >100. The 1H - and ^{31}P -detected multiple-quantum NMR spectroscopy is much more insensitive to missetting the W carrier frequency, and thus larger ^{183}W -shift ranges are covered within 1 reverse 2-dimensional expt. In addn., $\Delta(^{183}W)$ and the magnitude and relative signs of $J(W,H)$, $J(W,P)$, and $J(P,H)$ are easily extd. from such expts.

L4 ANSWER 21 OF 23 CAPLUS COPYRIGHT 2002 ACS

AN 1987:176574 CAPLUS

DN 106:176574

TI Transition metal substituted phosphines, arsines, and stibines. LI. Dimetallate $Na_2[Me_2Si[(C_5H_4(CO)_3M)_2]$ (M = molybdenum, tungsten) preparation and conversion to neutral complex $Me_2Si[(C_5H_4(CO)_3MR)_2]$ (R = methyl, dimethylarsino) with a σ -bound dimethylarsenido- or methyl-group

AU Baumann, Rainer; Malisch, Wolfgang

CS Inst. Anorg. Chem., Univ. Wuerzburg, Wuerzburg, D-8700, Fed. Rep. Ger.

SO Journal of Organometallic Chemistry (1986), 303(2), C33-C37

CODEN: JORCAI; ISSN: 0022-328X

DT Journal

LA German

OS CASREACT 106:176574

AB The bis(sodium-metalates) $Na_2[Me_2Si[(C_5H_4)M(CO)_3]_2]$ [M = Mo, (I), M = W (II)], in which the metal centers are linked by their cyclopentadienyl ligands through a Me_2Si unit are obtained by the reaction of $Na_2[(C_5H_4)_2SiMe_2]$ with two moles of $M(CO)_6$. Treatment of I with Me_2AsCl leads to the formation of the bis(metalloarsane) $Me_2Si[(C_5H_4)(CO)_3MoAsMe_2]_2$, which is quaternized by MeI at the As atoms to give the dicationic complex $[Me_2Si[(C_5H_4)(CO)_3MoAsMe_3]_2]^{2+}$. In reactions with $Me_3P:CH_2$, cleavage of the Mo-As bonds occurs, followed by transylidation to yield the bis(phosphonium metalate) $[Me_4P]_2[Me_2Si[(C_5H_4)Mo(CO)_3]_2]$ and $Me_3:CHAsMe_2$. From I, II and MeI the dinuclear Me complexes $Me_2Si[(C_5H_4)(CO)_3MMe]_2$ are obtained.

L4 ANSWER 22 OF 23 CAPLUS COPYRIGHT 2002 ACS

AN 1987:67434 CAPLUS

DN 106:67434

TI $\mu-(Bis(\eta^5-cyclopentadienyl)dimethylsilyl)bis(tricarbonyltungsten)$, a cyclopentadienyl ligand bridged bis($\eta^5-cyclopentadienyl$ tricarbonyltungsten)

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SO Journal of Organometallic Chemistry (1986), 302(3), 363-70

CODEN: JORCAI; ISSN: 0022-328X

DT Journal

LA German

OS CASREACT 106:67434

AB The reaction of $W(CO)_3(EtCN)_3$ with $(C_5H_5)_2Si(CH_3)_2$ leads to the Cp-bridged, binuclear hydrido complex $[W(CO)_3H]_2-\mu-(\eta^5-C_5H_4)_2Si(CH_3)_2$ as the main product, whereas only $[W(CO)_3]_2-\mu-(\eta^5-C_5H_4)_2Si(CH_3)_2$ (I) is formed as the minor product. Much better yields of I can be obtained in the reaction of $W(CO)_3(EtCN)_3$ with $Li_2[(C_5H_4)_2Si(CH_3)_2]$ and subsequent oxidn. As pointed out by X-ray structure anal., complex I has a cis-configuration with C_2 -symmetry due to the linked Cp ligands. In the chiral complex a topomerism can be proved by temp.-dependent NMR spectroscopy.

L4 ANSWER 23 OF 23 CAPLUS COPYRIGHT 2002 ACS

AN 1985:132197 CAPLUS

DN 102:132197

TI Organomolybdenum derivatives of cymantrene
AU Leont'eva, L. I.; Perevalova, E. G.
CS Inst. Elementoorg. Soedin. im. Nesmeyanova, Moscow, USSR
SO Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya (1984), (10), 2352-8
CODEN: IASKA6; ISSN: 0002-3353
DT Journal
LA Russian
GI For diagram(s), see printed CA Issue.
AB $\text{Cp}(\text{CO})_3\text{MoCOCy}$ (I) and $\text{Cp}(\text{CO})_2\text{LMoCy}$ (II, L = CO, Ph₃P; Cp = η^5 -cyclopentadienyl; Cy = cymantrienyl) were prepd. and their reactions with HCl, iodine, HgCl₂ and HgBr₂ studied. Thus, treating $\text{Cp}(\text{CO})_3\text{MoNa}$ with CyCOCl in THF gave 55% I. Heating II (L = CO) at 169-71.degree. 2.5 h gave Mn-Mo-Mo complexes III (X = -, CO) and $[\text{Cp}(\text{CO})_3\text{Mo}]_2$.